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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,596	09/15/2003	Oji Kuno	117167	8066
25944	7590	07/25/2006	EXAMINER	
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			NGUYEN, CAM N	
			ART UNIT	PAPER NUMBER

1754

DATE MAILED: 07/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/661,596	Applicant(s) KUNO, OJI	
	Examiner Cam N. Nguyen	Art Unit 1754	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04/18/06 (an amendment/response).
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on originally filed is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4/18/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicants' amendment and remarks, filed July 10, 2006, has been made of record and entered. Claims 1 & 4 have been amended.

Claims 1-15 are currently pending and under consideration.

Claim Rejections - 35 USC § 102(e)

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-3, 6-10, & 13-14 are rejected under 35 U.S.C. 102(e) as being anticipated by Takeshima et al., "hereinafter Takeshima", (US Pat. 6,956,008 B2).

Takeshima discloses a storage-reduction type NO_x purifying catalyst, comprising: a monolithic substrate having formed thereon a coat layer containing a cerium-zirconium composite oxide and a cerium-free oxide, a noble metal and a NO_x storing material supported on said coat layer, wherein the cerium content of said cerium-zirconium composite oxide is less than 30 mol%, based on the molar number of metal atoms contained (see col. 11- col. 12, claim 1). The cerium-zirconium composite

oxide further comprises at least one metal (M) selected from rare earth metals (excluding cerium) (see col. 12, claim 4 & see also claim 5). The M/Ce molar ratio is from 0.1 to 10 (see col. 12, claim 6). Takeshima also discloses the claimed method of synthesizing the cerium-zirconium composite oxide (see col. 6, ln 1-13).

It is considered the claimed cerium and zirconium are met since the disclosed molar ratios of Ce and Zr are falling within the claimed molar ratio ranges.

With respect to the claimed "isoelectric point" limitation, it is considered inherent that the disclosed cerium-zirconium composite metal oxide would possess the same isoelectric point because it is the same composite oxide.

Claim Rejections - 35 USC § 102(e)/103

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-15 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Brotzman, Jr. et al., "hereinafter Brotzman, Jr.", (US Pat. 7,052,777 B2) in view of Jacobson (US Pat. 5,071,676).

Brotzman, Jr. discloses a composite nanoparticle material comprising plurality of cores and a plurality of shells, with each of the shells comprising at least one metal oxide and a second metal or metal oxide, wherein at least one of the cores is encapsulated by one of the shells and at least two of the plurality shells are capable of being sintered together to form a reticulated network (see col. 12, claim 1). The plurality of cores constitute from about 51 to about 100 percent, by weight, of the composite nanoparticle material (see col. 12, claim 8). See also col. 13, claim 12- col. 14, claim 41. See also col. 5, ln 62-68 for molar ratio of the core and shell.

With respect to the claimed "isoelectric point" limitation, it is considered inherent that the disclosed cerium-zirconium composite metal oxide would possess the same isoelectric point because it is the same composite oxide.

If in fact the disclosed composite material does not possess the same isoelectric point, then the following applies.

It would have been *prima facie obvious* to one of ordinary skill in the art at the time the invention was made to have controlled the isoelectric point of the composite material during the process of preparing the composite material of Brotzman, Jr. in order to achieve an effective catalyst material because it is known in Jacobson to do so (see Jacobson at col. 6-7, claim 1).

Response to Applicants' Arguments

6. Applicants' amendment and response filed on April 18, 2006 has been fully reconsidered, but not deemed persuasive in view of the new ground of rejection(s) and/or objection(s) above and the following reasons.

Applicants' submission of a 1.131 Declaration is noted. However, the declaration as submitted fails to overcome the rejection previously made over Takeshima (US Pat. 6,956,008 B2) because it does not include "Exhibit A" as mentioned in the declaration.

Citations

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. All references are cited for related art. See PTO-892 Form prepared attached.

Conclusion

8. Claims 1-15 are pending. Claims 1-15 are rejected. No claims are allowed.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Primary Examiner Cam N Nguyen, whose telephone number is 571-272-1357. The examiner can normally be reached on M, W, R, & F, 9:00 AM - 6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman, can be reached on 571-272-1358. The fax phone

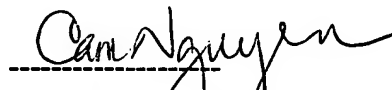
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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nguyen/cnn
July 10, 2006

cnn



CAM N. NGUYEN
PRIMARY EXAMINER
Art Unit - 1754